Regional Municipality of Ottawa-Carleton Planning Department April, 1983

official plan review

DRAFT

OPTIONS FOR FUTURE GROWTH

OTTAWA-CARLETON, 1981-2001

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Summary

INTRODUCTION

Population and employment dynamics of the late 1970's have created a new situation in Ottawa-Carleton. Recent analyses undertaken by the Regional Planning Department have shown that overall population growth and especially growth inside the greenbelt has not achieved the levels expected in the early 1970's when the Official Plan was developed. If these trends continue it is unlikely that the population distribution forecast in the Official Plan will be achieved.

The amount of employment which has been required to support the growth in population in recent years has increased due to changes in the age structure of the population and increased labour force participation rates especially for women, and increased proportion of part-time employment.

This situation has significant implications for the future land requirements for employment activities and support services if the Ottawa-Carleton region is to achieve the population levels envisaged in the Official Plan.

As well, various trends in the type of employment growth observed in the last five years suggest that a number of Official Plan policies based on economic assumptions developed in the early 1970's may no longer be valid.

It is therefore an appropriate time to review Parts 2 and 3 of the Official Plan, which deal with the scale and structure of growth and transportation and utilities respectively. In order to undertake an analytical review and evaluation of these parts of the Official Plan, an understanding of the various factors influencing growth in population and employment levels and distribution is required.

In addition, an appreciation of the past trends in these variables is fundamental to the preparation of the possible future trends which could affect the Region over the long-term. These projections of future trends are required so that an evaluation of the alternative ways of providing for the expected growth in jobs and population can be undertaken.

REPORT OBJECTIVES

The objectives of this report are:

i) To provide a summary of the growth trends of the 1971-1981 period in the two principle variables namely population and employment in the context of Regional Official Plan policy regarding these variables;

ii) Based on a review of these trends and a discussion of the interrelationships between the two principle variables, to identify a probable range of total population and employment which could occur by the turn of the century in the Ottawa-Carleton Region;

iii) to identify a range of reasonable and attainable options for the geographic distribution within the Ottawa-Carleton Region of the anticipated increases in population and employment identified in (ii) and

iv) to recommend that the options described in this report be considered for detailed analysis by the Planning Department in co-operation with other regional departments and the ACPAT sub-committee dealing with land use and Transportation as part of the Official Plan Review currently underway and

v) to recommend that the long-term (post 2001) downstream implications for public services be investigated for substantially larger urban communities in the East and

West and that configurations of an urban community(ies) be investigated outside the greenbelt south of the greenbelt as part of the evaluation of alternatives.

OTTAWA-CARLETON POPULATION GROWTH 1971-1981

In the period 1971 to 1981 the population of Ottawa-Carleton grew from approximately 472,000 to nearly 547,000 or an increase of some 75,000 persons. This population growth translates into an increase of approximately 7,500 persons per year on average or a compound growth rate of approximately 1.5 per cent. The long-term planning strategy of the Official Plan of the Regional Municipality of Ottawa-Carleton is based on the assumption that the population of Ottawa-Carleton could increase to one million persons in approximately 30 years from the date of its adoption (1974). This assumption was predicated on a continuation of the population growth rate experienced in the 1961 to 1971 period. During this period Ottawa-Carleton grew by nearly 114,000 persons. The average annual population growth was approximately 11,350 persons while the compound growth rate was 2.8 per cent per annum.

The impact of the difference in growth levels and rates observed between the 1961-1971 and 1971-1981 period is obscured by the significantly lower growth rates of the last five years. In the period 1976-1981 Ottawa-Carleton grew by approximately 5,300 persons on average per year or a compound growth rate of approximately 1.0 per cent. This rate and level of growth was lower than during any of the previous 5 year periods since 1951.

COMPONENTS OF POPULATION GROWTH IN OTTAWA-CARLETON 1961-1981

What are the factors which have resulted in the decline in the rate and level of population growth in Ottawa-Carleton? The change in population in any given period is a function of births, deaths and net-migration the latter being the difference between in and out migration. An analysis of these variables indicated that declining fertility levels and lower net-migration levels were the principle causes of the decline in the level of growth. The mortality rate, in contrast, decreased slightly.

It is evident however from studies undertaken by the Planning Department that the major demographic factor influencing the level of population growth is the amount of net in-migration.

Migration is mainly influenced by the rate of job formation. Other influences such as socio-cultural and political factors are also a consideration but not the same extent as the growth in employment.

The rate of job creation was and is one of the most important factors determining the rate of population growth in Ottawa-Carleton.

POPULATION GROWTH AND DISTRIBUTION 1971-1981

Though the population growth levels and rates experienced in the 1971 to 1981 period are significantly lower than the previous decade (the experience of which formed the basis for the Regional Official Plan) the geographic distribution of this growth is also significant and is one of the main reasons why a review of the Official Plan is required.

In the decade 1971 to 1981, the municipalities located inside the outer limit of the greenbelt accounted for approximately 35 per cent of the total population growth in the Region. Therefore, approximately 65 per cent of the growth took place elsewhere, primarily in the three new urban communities outside of the greenbelt.

What is really significant however, is the growth situation experienced in the last five years. Between 1976 and 1981, 97% of the total population growth in Ottawa-Carleton occurred in the three urban communities outside of the greenbelt. In fact, in the same period the population of the municipalities inside the outer limit of the greenbelt declined by over 2,000 persons. Upon further analysis it can be seen that the total population of the three older urban municipalities of Ottawa, Vanier and Rockcliffe Park has declined continually since 1971 and by 1981 had dropped by over 11,000 persons. Therefore, it can be deduced that the majority of the net growth inside the greenbelt took place in new subdivisions in the Cities of Nepean and Gloucester.

Why has population inside the greenbelt, especially in the three older urban municipalities of Ottawa, Vanier and Rockcliffe Park declined in recent years? The answer is primarily related to decline in the size of households, that is the number of people living in each housing unit.

The decline in household size is an overall regional trend. Between 1971 and 1981 the average household size in Ottawa-Carleton declined from 3.3 persons per household to 2.7 persons per household.

Between 1971 and 1981 the population of Ottawa-Carleton increased by 16 per cent while the number of households increased by nearly 46 per cent.

The reasons for the imbalance between population growth and household growth and the resultant decline in average household size are related to: a) changes in the age structure of the population; b) changes in the propensity to form households; c) a general decrease in overall fertility rates which has resulted in smaller families; and d) other socio-economic and demographic factors possibly related to change in life styles, and accommodation and location preferences.

IMPLICATIONS OF CONTINUED TRENDS IN THE GROWTH OF HOUSEHOLDS

A recent report on land-use prepared by the Regional Planning Department has shown that the per capita consumption of land for urban purposes between 1971 and 1981 was much greater than the consumption in the 1961 to 1971 period. This situation if it were to continue would have serious implications on the validity of the Official Plan assumptions used in the early 1970's in determining the future land requirements of the Region.

OTTAWA-CARLETON EMPLOYMENT GROWTH 1971-1981

In the period 1971 to 1981 the total number of jobs in the Ottawa-Carleton Region is estimated to have increased from approximately 214,400 to approximately 293,700 or an increase of 79,300 jobs. In comparison, between 1961 and 1971 the number of jobs increased by over 73,300. The significance of these relatively similar levels of employment growth is only apparent on comparison with the growth of population for these two decades.

In the decade 1961 to 1971 the population of the Ottawa-Carleton region grew by nearly 114,000 persons. While in the 1971 to 1981 period the net population increase was 35 per cent less, or approximately 75,000 persons.

The ratio then between people and jobs as a result has declined from 2.3 persons supported by one job in 1971 to 1.9 persons supported by one job by 1981.

Therefore, more jobs have been required to support the population growth in the last decade than in the previous one.

This means that to achieve the same amount of population growth experienced in the late sixties to meet the objectives of the Regional

Official Plan of 450,000 jobs supporting a population of one million, requires the creation of a larger number of jobs. This has implications for the future amount of land required for employment activities and the services required to support them especially since per capita consumption of commercial, industrial and institutional land in the urban area has increased dramatically in the last decade.

Why has the situation occurred?

To understand the reasons for the employment growth experienced in the last decade requires an understanding of the complex relationships between population and jobs. This relationship has been described in detail in a previous study undertaken by the Planning department and is elaborated on further in the report Employment Projections Ottawa-Carleton 1981-2001. Suffice it to say that the major influences on the last decade that resulted in the observed changes were primarily related to increases in the number of labour force age and the labour force participation rates of these people. In addition, between 1976 and 1981, part-time employment increased by 42% while full-time employment increased by only 3%. This increase in part-time employment was a significant contributing factor to the increase in participation rates.

POPULATION AND EMPLOYMENT PROJECTIONS OTTAWA-CARLETON 1981-2001

POPULATION PROJECTIONS 1981-2001

A review of possible and probable population projections was recently undertaken. The objective was to decide upon a range of projections which would represent a reasonable range for reviewing future growth options in the Region.

Two population projections were chosen. The low projection applies current trends with respect to age-specific fertility, and mortality rates and uses a net in-migration level which is based upon the average net-migration of the 1976 to 1981 period (1,760 people per year) on a constant annual basis to the year 2001. The result is a population of 623,000 in the Region in the year 2001.

A high population projection was also developed. The major difference is an assumption of an average of 6,000 net in-migrants per year after 1981 for the next 20 years. This level of migration is significantly higher than the average net migration of the last 20 years which was estimated to have been approximately 4,950 per year.

The application of these demographic assumptions on a constant annual basis result in a total population of 723,000 in the Ottawa-Carleton region in the year 2001.

POPULATION: OTTAWA-CARLETON
1981-2001

	Year				
Assumption	1981	1986*	1991*	1996*	2001*
LOW	546,772	573,000	596,000	612,000	623,000
HIGH	546,772	595,000	643,000	685,000	723,000

Source: Ottawa-Carleton Planning Department April, 1982

*Population rounded to nearest thousand

These two projections delineate a range of populations that could be achieved in the Region by the turn of the century.

EMPLOYMENT PROJECTIONS 1981-2001 RELATIONSHIP BETWEEN POPULATION AND JOBS

Two employment projections have been prepared in conjunction with the population projections.

1. The low projection

   Approximately 353,000 jobs are required to achieve the lower population projection.

   This level of growth would result if federal government grew at the modest rate of 0.3% a year and most other sectors continued their recent trends.

   In terms of real growth in the economy the low projection is similar to the experience of the period 1976 to 1981.

2. The High Projection

   Approximately 443,000 jobs are required to achieve the higher population projection.

   This level of employment could be achieved if the Federal government maintained an average rate of growth of 2.0 per cent per year and the rate of job creation in most other sectors was greater than recent trends due to higher levels of population growth and the associated demands for population serving activities.

It has been determined that the number of persons supported per job will decrease in the future:

a) due to increased participation rates combined with;

b) an increased proportion of the population over 15 years of age (labour force age);

c) due to the maintance of a constant proportion of the population with more than one job.

Both projections assume a constant 17 per cent of the labour force works part-time. However, between 1976 and 1981, part-time employment increased from 13% to 17% of all jobs representing 68% of the total increase in employment. This proportion may continue to increase thereby producing higher participation rates and a lower number of persons supported per job.

The range of population and employment identified in this report will form the basis for reviewing and testing future options for the geographic distribution of the anticipated increases in population and employment within the Ottawa-Carleton Region.

OPTIONS FOR EMPLOYMENT AND POPULATION DISTRIBUTION IN OTTAWA-CARLETON: 1991 and 2001

A. INTRODUCTION

The following options for employment and population distributions have been identified for testing purposes. They do not represent all the possible combinations that could occur but include most representative cases. Testing will include running the TRANS model to forecast overall transportation demands and may include other analyses of such matters as potential energy consumption, the costs of providing and potential benefits of locations of development and how well each alternative fulfills the goals of the official plan.

The TRANS model cannot be used to test various alternative rural growth options due to the size and number of traffic zones and the low order of magnitude of growth associated with the rural growth options.

The implications of various rural growth options will be determined as part of the overall review and evaluation of urban structure and rural settlement patterns.

Though the population and employment growth identified in this report to the turn of the century is significant, the long-term effects (post year 2001) associated with larger and possibly different development concepts will be addressed during the course of the Official Plan review.

The performance of these alternative concepts will be evaluated on the basis of the progression toward or retrogression away from the objectives currently in the Official Plan. The evaluation will be based both on quantitative system performance measures and on judgemental appraisals of performance.

It is emphasized that there is not a clear relationship between the distribution of jobs and the distribution of people. For example, the large concentration of employment in the central area is not associated with a large concentration of people. There will always be a certain amount of employment required to meet the service and retail requirement of a neighbourhood and these levels will vary in some relationship with population. However, the remaining portion of employment is distributed as a function of a variety of factors: total regional demand for that land use, availability of land, disposition of competing sites etc. As a result, two urban communities of a similar size will not necessarily have a similar employment base.

B. OPTIONS TO BE TESTED

1. Regional Projection

The options are divided into two groups. Those which represent a high overall regional projection signifying rapid growth in employment and the associated population levels. Those which represent the low end of the range of likely options.

The high projection represents 723,000 people and 443,000 jobs in the Region in 2001. This means that 76% of the population and 66% of the employment are already in place in 1981.

The low projection represents 623,000 people and 353,000 jobs at the turn of the century. This means that 88% of the population and 83% of the employment are already in place in 1981.

2. Distribution of Regional Projections

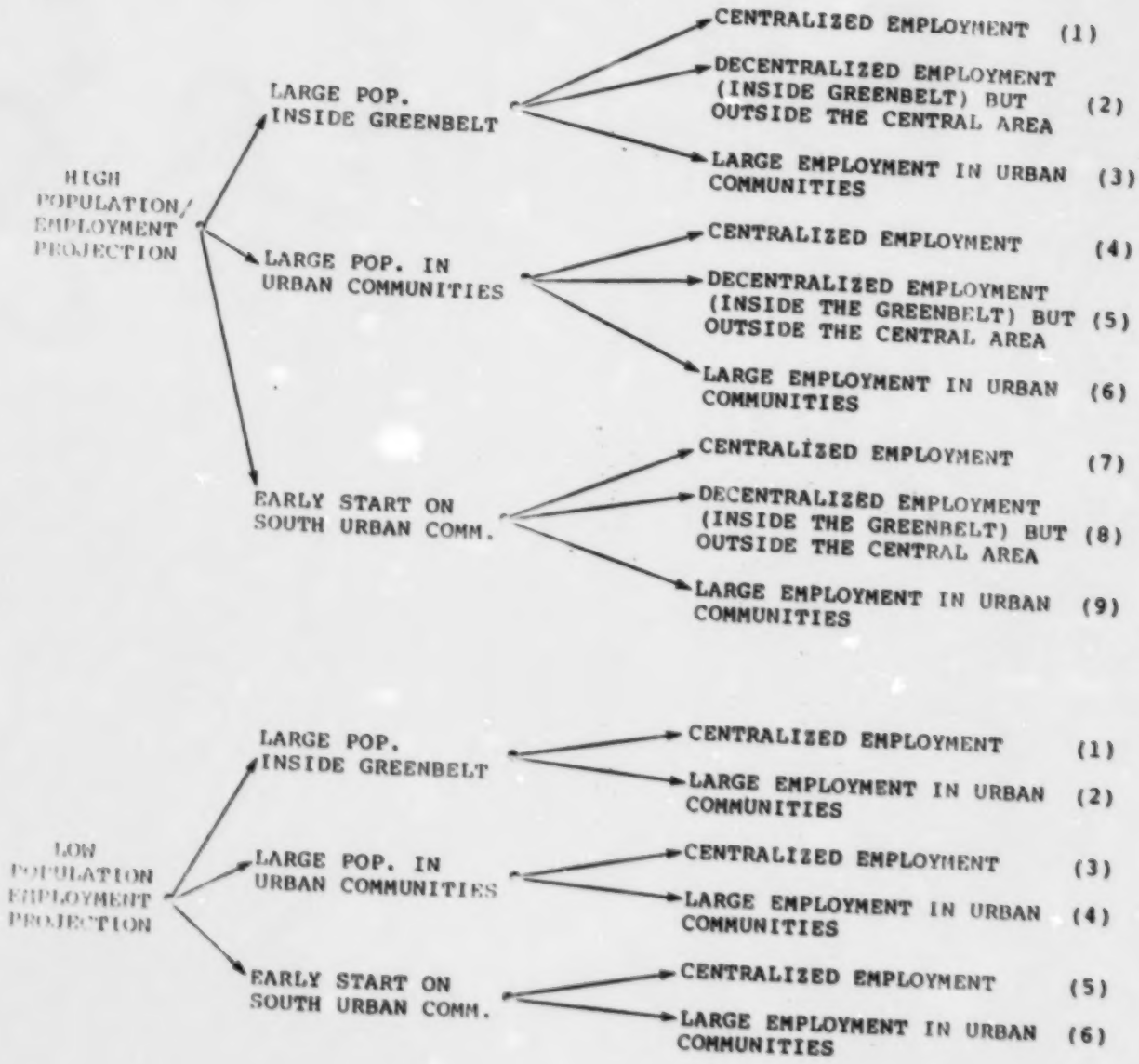
The following figure identifies a series of optional distributions that have been developed for the high and low regional projections. They are intended to cover a broad spectrum of situations that could occur by the turn of the century.

Each option results from some combination of employment and population.

Dealing with the high projection first, there are three typical population distributions that could occur: 1) a high population inside the greenbelt boundary; 2) a high population in the East and West Urban Communities; 3) an early South Urban Community. This distributional option entails the early development of the South Urban Community beyond the current boundaries of Barrhaven. The location of this additional development could be a) south of Barrhaven in the City of Nepean; b) part of the south-west portion of the City of Gloucester; and c) in both areas, as contemplated in the Regional Official Plan. In addition there are three typical employment distributions that could occur: 1) a large centralization of employment in the central area; 2) a decentralization of central area employment (mainly) to other areas inside the greenbelt boundary; 3) a high level of employment in the urban communities. In total then there are nine possible combinations. The first option for example is characterized by a high population inside the greenbelt boundary in combination with a centralized employment distribution.

Similarly, the low options are summarized as follows with respect to population: 1) a high population level inside the greenbelt bounda-

SUMMARY OF OPTIONS PREPARED


HIGH POPULATION/ EMPLOYMENT PROJECTION
LARGE POP. INSIDE GREENBELT
CENTRALIZED EMPLOYMENT (1)
DECENTRALIZED EMPLOYMENT (INSIDE GREENBELT) BUT OUTSIDE THE CENTRAL AREA (2)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (3)
LARGE POP. IN URBAN COMMUNITIES
CENTRALIZED EMPLOYMENT (4)
DECENTRALIZED EMPLOYMENT (INSIDE THE GREENBELT) BUT OUTSIDE THE CENTRAL AREA (5)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (6)
EARLY START ON SOUTH URBAN COMM.
CENTRALIZED EMPLOYMENT (7)
DECENTRALIZED EMPLOYMENT (INSIDE THE GREENBELT) BUT OUTSIDE THE CENTRAL AREA (8)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (9)
LOW POPULATION EMPLOYMENT PROJECTION
LARGE POP. INSIDE GREENBELT
CENTRALIZED EMPLOYMENT (1)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (2)
LARGE POP. IN URBAN COMMUNITIES
CENTRALIZED EMPLOYMENT (3)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (4)
EARLY START ON SOUTH URBAN COMM.
CENTRALIZED EMPLOYMENT (5)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (6)

ries; 2) a large population in the East and West Urban Communities; 3) an early start on the South Urban Community (similar in distribution to the high growth option). The employment is only likely to achieve one of two distributions: 1) a centralized distribution or 2) a high level of employment in the urban communities.

Therefore, they are six possible combinations for the low projection assumptions.

These 15 options are realistic alternatives which may be achievable if policies are created to support them. However as a result of analysis and evaluation the recommended option may well be one which combines attributes from many.

It is intended that detailed analyses will be carried out on each of the options. The Planning department in co-operation with other regional departments and the ACPAT Sub-committee dealing with land-use and transportation will be examining the advantages and disadvantages of each of these options in 1983.

In addition, the long-term (post 2001) downstream implications of substantially larger urban communities in the East and West and on alternative urban community locations in the south will be investigated as part of the Official Plan review.

1.0 Introduction

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Population and employment dynamics of the late 1970's have created a new situation in Ottawa-Carleton. Recent analyses undertaken by the Regional Planning Department have shown that overall population growth and especially growth inside the greenbelt has not achieved the levels expected in the early 1970's when the Official Plan was developed.[1] If these trends continue it is unlikely that the population distribution forecast in the Official Plan will be achieved.

The amount of employment which has been required to support the growth in population in recent years has increased due to changes in the age structure of the population and increased labour force participation rates especially for women, and increased proportion of part-time employment.

This situation has significant implications for the future land requirements for employment activities and support services if the Ottawa-Carleton region is to achieve the population levels envisaged in the Official Plan.

As well, various trends in the type of employment growth observed in the last five years suggest that a number of Official Plan policies based on economic assumptions developed in the early 1970's may no longer be valid.

It is therefore an appropriate time to review Parts 2 and 3 of the Official Plan, which deal with the scale and structure of growth and transportation and utilities respectively. In order to undertake an analytical review and evaluation of these parts of the Official Plan, an understanding of the various factors influencing growth in population and employment levels and distribution is required.

In addition, an appreciation of the past trends in these variables is fundamental to the preparation of the possible future trends which could affect the Region over the long-term. These projections of future trends are required so that an evaluation of the alternative ways of providing for the expected growth in jobs and population can be undertaken.

1.1 Report Objectives

The objectives of this report therefore are:

i) To provide a summary of the growth trends of the 1971-1981 period in the two principle variables namely population and employment in the context of Regional Official Plan policy regarding these variables;

ii) Based on a review of these trends and a discussion of the interrelationships between the two principle variables, to identify a probable range of total population and employment which could occur by the turn of the century in the Ottawa-Carleton Region;

iii) to identify a range of reasonable and attainable options for the geographic distribution within the Ottawa-Carleton Region of the anticipated increases in population and employment identified in (ii) and

iv) to recommend that the options described in this report be considered for detailed analysis by the Planning Department in co-operation with other regional departments and the ACPAT sub-committee dealing with land use and Transportation as part of the Official Plan Review currently underway[2]

A detailed analysis and evaluation of the transportation implications of the various options will be undertaken in 1983. Testing will include running the TRANS model to forecast overall transportation demands and may

include other analyses of such matters as potential energy consumption, the financial impact of the alternatives for the municipality and how well each alternative fulfills the goals and objectives of the Official Plan.

v) to recommend that the long-term (post 2001) downstream implications for public services be investigated for substantially larger urban communities in the East and West and that configurations of an urban community(ies) be investigated outside the greenbelt south of the greenbelt as part of the evaluation of alternatives.

2.0 OTTAWA-CARLETON POPULATION GROWTH 1971-1981

In the period 1971 to 1981 the population of Ottawa-Carleton grew from approximately 472,000 to nearly 547,000 or an increase of some 75,000 persons (Table 2.1). This population growth translates into an increase of approximately 7,500 persons per year on average or a compound growth rate of approximately 1.5 per cent. The long-term planning strategy of the Official Plan of the Regional Municipality of Ottawa-Carleton is based on the assumption that the population of Ottawa-Carleton could increase to one million persons in approximately 30 years from the date of its adoption (1974).[3] This assumption was predicated on a continuation of the population growth rate experienced in the 1961 to 1971 period. During this period Ottawa-Carleton grew by nearly 114,000 persons. The average annual population growth was approximately 11,350 persons while the compound growth rate was 2.8 per cent per annum.

The impact of the difference in growth levels and rates observed between the 1961-1971 and 1971-1981

TABLE 2.1
POPULATION GROWTH: OTTAWA-CARLETON
1951-1981

OTTAWA-CARLETON POPULATION

1951	1956	1961	1966	1971	1976	1981	
246,298	287,246	358,410	413,692	471,931	520,533	546,849	
ABSOLUTE POPULATION CHANGE OTTAWA-CARLETON							
1951-1956	1956-1961	1961-1966	1966-1971	1961-1971	1971-1976	1976-1981	1971-1981
40,948	71,164	55,282	58,239	113,521	48,602	26,316	74,918
ANNUAL AVERAGE POPULATION CHANGE OTTAWA-CARLETON							
8,190	14,233	11,956	11,648	11,352	9,720	5,263	7,491
% GROWTH COMPOUND PER ANNUM							
1951-1956	1956-1961	1961-1966	1966-1971	1961-1971	1971-1976	1976-1981	1971-1981
OTTAWA-CARLETON							
3.1	4.4	2.9	2.6	2.8	2.0	1.0	1.5

SOURCE: 1951-1981 CENSUS OF CANADA

period is obscured by the significantly lower growth rates of the last five years. In the period 1976-1981 Ottawa-Carleton grew by approximately 5,300 persons on average per year or a compound growth rate of approximately 1.0 per cent. This rate and level of growth was lower than during any of the previous 5 year periods since 1951.[4]

2.1 Components of Population Growth in Ottawa-Carleton 1961-1981

What are the factors which have resulted in the decline in the rate and level of population growth in Ottawa-Carleton? The change in population in any given period is a function of births, deaths and net-migration the latter being the difference between in and out migration. An analysis of these variables indicated that declining fertility levels and lower net-migration levels were the principle causes of the decline in the level of growth.
The mortality rate, in contrast, had only slightly decreased.[5]

The numerical difference between births and deaths is referred to as natural increase. The relative contribution of both natural increase and net-migration to population growth in the 1961-1981 period is shown in Table 2.2.

Table 2.2

COMPONENTS OF POPULATION GROWTH OTTAWA-CARLETON 1961-1981

PERIOD	% NATURAL INCREASE	% MIGRATION
1961-1966	55.4	44.6
1966-1971	38.3	61.7
1971-1976	39.2	60.8
1976-1981	66.6	33.4

SOURCE: Ministry of Treasury and Economics, Demographic Bulletin, February 1978. Statistics Canada, Vital statistics 1978-1980. 1981 Census of Canada.

It is apparent that natural increase was a larger proportion of population growth in the early 1960's than net-migration. This situation is illustrative of the so called "post-war baby boom" period.

In the period 1966-1976 natural increase accounted for a smaller proportion of population growth than migration. This change can be attributed to declining levels of fertility associated with the "baby bust" period as well as relatively high levels of migration which occurred in Ottawa-Carleton after 1966. In the period 1976 to 1981 the relative contribution of natural increase to population growth reversed, that is, natural increase accounted for nearly 67 per cent of population growth in Ottawa-Carleton. This change in the relationship is mainly related to declining levels of net-migration. Natural increase levels remained virtually constant since the mid 1970's.

It is evident from the above and from previous studies undertaken by the planning department that the major demographic factor influencing the level of population growth in the Ottawa-Carleton Region is the amount of net in-migration.

Migration is mainly influenced by the rate of job formation. Other influences such as socio-cultural and political factors are also a consideration but not to the same extent as the growth in employment.

The rate of job creation was and is one of the most important factors determining the rate of population growth in Ottawa-Carleton.

2.2 Population Growth and Distribution 1971-1981

Though the population growth levels and rates experienced in the 1971 to 1981 period are significantly lower than the previous decade (the experience of which formed the basis for the Regional Official Plan) the geographic distribution of this growth is also significant and is one of the main reasons why a review of the Official Plan is required.

In the decade 1971 to 1981, the municipalities located inside the outer limit of the greenbelt accounted for approximately 35 per cent of the total population growth in the Region.[6] Therefore, approximately 65 per cent of the growth took place elsewhere, primarily in the three new urban communities outside of the greenbelt.

What is really significant however, is the growth situation experienced in the last five years. Between 1976 and 1981, 97% of the total population growth in Ottawa-Carleton occurred in the three urban communities outside of the greenbelt. In fact, in the same period the population of the municipalities inside the outer limit of the greenbelt declined by over 2,000 persons. Upon further analysis (Table 2.3) it can be seen that the total population of the three older urban municipalities of Ottawa, Vanier and Rockcliffe Park has declined continually since 1971 and by 1981 had dropped by over 11,000 persons. Therefore, it can be deduced that the majority of the net growth inside the greenbelt took place in new subdivisions in the Cities of Nepean and Gloucester.

Why has population inside the greenbelt, especially in the three older urban municipalities of Ottawa, Vanier and Rockcliffe Park declined in recent years? The answer is primarily related to decline in the size of households, that is the number of people living in each housing unit.

TABLE 2.3
POPULATION GROWTH OTTAWA-CARLETON 1971-1981
BY MAJOR GEOGRAPHIC AREA

	1971	Net Change	1976	Net Change	1981	Net Change 1971-1981
Ottawa, Vanier, Rockcliffe Portion	326,935	-544	326,391	-10,567	315,824	-11,111
Nepean	61,780	11,296	73,076	246	73,322	11,542
Gloucester	27,985	17,654	45,639	8,272	53,911	25,926
Total Inside Outer limit of Greenbelt	416,699	28,404	445,103	-2,046	443,057	26,358
West Urban Community	7,010	4,731	11,741	6,757	18,498	11,488
East Urban Community	6,335	5,144	11,479	11,774	23,253	16,918
South Urban Community (Barrhaven)	825	1,019	1,844	6,867	8,711	7,886
Total Urban Communities	14,170	10,894	25,064	25,398	50,462	36,292
Rural	41,005	9,370	50,375	2,955	53,330	12,325
Total	471,874	48,668	520,542	26,307	546,849	74,975

DERIVED FROM CENSUS OF CANADA (1971-1981)

The decline in household size is an overall regional trend. Between 1971 and 1981 the average household size in Ottawa-Carleton declined from 3.3 persons per household to 2.7 persons per household.

Between 1971 and 1981 the population of Ottawa-Carleton increased by 16 per cent while the number of households increased by nearly 46 per cent.

The reasons for the imbalance between population growth and household growth and the resultant decline in average household size are explained elsewhere.[7] Suffice it to say that the imbalance is related to: a) changes in the age structure of the population; b) changes in the propensity to form households,;c) a general decrease in overall fertility rates which has resulted in smaller families; and d) other socio-economic and demographic factors possibly related to change in life styles, and accommodation and location preferences.

2.3 Implications of Continued Trends in the Growth of Households

A recent report on land-use prepared by the Regional Planning Department[8] has shown that the per capita consumption of land for urban purposes between 1971 and 1981 was much greater than the consumption in the 1961 to 1971 period. This situation if it were to continue would have serious implications on the validity of the Official Plan assumptions used in the early 1970's in determining the future land requirements of the Region.

In the decade 1961 to 1971, the total urban population in the Region increased by 35 per cent and the amount of urbanized land increased by 39 per cent. However, during the period 1971 to 1981 while the amount of urbanized land increased by 34 per cent the urban population increased by only 13.5 per cent.[9] In numeric terms, with each increase of 1,000 population, 27.8 ha and 64.8 ha of urban land were added during the two periods respectively.

If only residential lands are considered, with each increase of 1,000 population 17.7 ha of residential lands were developed between 1961 and 1971. This ratio increased to 35.3 ha per 1,000 new population between 1971 and 1981.

These trends have resulted in a reduction in gross urban density in the Region.[10]

Since residential use has always been the predominant urban land use in the Region, any change in residential use has a significant impact on the overall urban density. The net residential density[11] has decreased from 82 persons per net residential ha in 1961 to 74 persons per ha in 1971 and 62 persons per ha in 1981.[12]

Two possible factors can contribute to a decline in residential density. They are declining household size (persons per household) and declining residential development density (occupied dwelling units per hectare). As was discussed previously, urban household sizes have declined.

A review of development density has indicated that the density of housing units has increased slightly. The number of occupied dwelling units or households in the urban area has increased from 21.4 households per hectare of residential land in 1961 to 21.7 in 1971 and 23.2 in 1981. Therefore, it has been concluded that the decline in residential density (expressed in persons per residential hectare) is due to the decline in household size.

This higher rate of land consumption may not be a problem at this time because Ottawa-Carleton has experienced a slower rate of population growth during the last 10 years than was originally anticipated. However, in the long term, unless there is a reversal in the trend of declining urban density the 24,000 hectares of land designated in the Regional Official Plan for urban purposes will not be sufficient to accommodate the 900,000 urban population, as envisaged in the Regional Official Plan. Additional urban land may have to be designated some time in the future.

3.0 ottawa-carleton employment growth 1971-1981

3.0 OTTAWA-CARLETON EMPLOYMENT GROWTH 1971-1981

In the period 1971 to 1981 the total number of jobs in the Ottawa-Carleton Region is estimated to have increased from approximately 214,400 to approximately 293,700[13] or an increase of 79,300 jobs. In comparison, between 1961 and 1971 the number of jobs increased by over 73,300.[14] The significance of these relatively similar levels of employment growth is only apparent on comparison with the growth of population for these two decades.

In the decade 1961 to 1971 the population of the Ottawa-Carleton region grew by nearly 114,000 persons. While in the 1971 to 1981 period the net population increase was 35 per cent less, or approximately 75,000 persons.

The ratio then between people and jobs as a result has declined from 2.3 persons supported by one job in 1971 to 1.9 persons supported by one job by 1981.

Therefore, more jobs have been required to support the population growth in the last decade than in the previous one.

This means that to achieve the same amount of population growth experienced in the late sixties to meet the objectives of the Regional Official Plan of 450,000 jobs supporting a population of one million, requires the creation of a larger number of jobs. This has implications for the future amount of land required for employment activities and the services required to support them especially since per capita consumption of commercial, industrial and institutional land in the urban area has increased dramatically in the last decade.[15]

Why has the situation occurred?

To understand the reasons for the employment growth experienced in the last decade requires an understanding of the complex relationships between population and jobs. This relationship has been described in detail in a previous study[16] undertaken by the Planning department and is elaborated on further in a position proper published simultaneously with this paper.[17]

The factors which affect population and employment totals are identified as:

1. fertility rate | natural
2. mortality rate | increase
3. level of net in-migration
4. age/sex structure of migrants
5. propensity to form households
6. age/sex structure of population
7. local demand for goods and services (taste, income etc)
8. participation rate
9. unemployment rate
10. incidence of commuting
11. part time employment
12. multiple job holdings
13. perception of job opportunities
14. external demand for goods and services.

The relationship between the various factors is not straight forward; a high degree of communality exists between some of the factors. It is therefore, difficult to isolate and quantify the individual factor's contribution to the past decade growth in total employment. Suffice it to say in this report that the major influences on the last decade that resulted in the observed changes were primarily related to increases in the number of people of labour force age[18] and the labour force participation[18] rates of these people. In addition, between 1976 and 1981, part-time employment increased by 42% while full-time employment increased by only 3%. This increase in part-time employment was a significant contributing factor to the increase in participation rates.

4.0 Population and Employment Projections Ottawa-Carleton 1981-2001

4.0 POPULATION AND EMPLOYMENT PROJECTIONS OTTAWA-CARLETON 1981-2001

Population Projections 1981-2001

A review of possible and probable population projections was recently undertaken.[19] The objective was to decide upon a range of projections which would represent a reasonable range for reviewing future growth options in the Region.

Two population projections were chosen. The low projection applies current trends with respect to age-specific fertility, and mortality rates and uses a net in-migration level which is based upon the average net-migration of the 1976 to 1981 period (1,760 people per year) on a constant annual basis to the year 2001. The result is a population of 623,000 in the Region in the year 2001. This level of population growth would be accomplished by the population growing 0.9 per cent per year (4,890 people) in the 1981 to 1991 period and by a growth of 0.4 per cent per year (2690 people) in the 1991 to 2001 period. This is compared to an observed rate of growth of 1.5 per cent per year (7500 people) in the 1971 to 1981 period.

A high population projection was also developed. The major difference is an assumption of an average of 6,000 net in-migrants per year after 1981 for the next 20 years. This level of migration is significantly higher than the average net migration of the last 20 years which was estimated to have been approximately 4,950 per year. This level of population would be accomplished by the population growing at a rate of 1.6 per cent per year (9620 people) in the 1981 to 1991 period and by a growth of 1.2 per cent per year (7,970 people) in the 1981 to 2001 period.

This is compared to an obseved rate of growth of 1.5 per cent per year (7,500 people) in the 1971 to 1981 period. The application of these demographic assumptions on a constant annual basis result in a total population of 723,000 in the Ottawa-Carleton region in the year 2001.

These two projections delineate a range of populations that could be achieved in the Region by the turn of the century. For a more detailed discussion of the assumptions and method utilized in projecting population, reference should be made to two previous reports prepared by the Planning department.[20]

Employment Projections 1981-2001

Relationship Between Population and Jobs

Two employment projections have been prepared in conjunction with the population projections which were identified in the previous section.[21]

The projected employment levels and relationship between projected and 1981 population and jobs is presented in summary form in Table 4.1.

1. <u>The low projection</u>

   Approximately 353,000 jobs are required to achieve the lower population projection.

   This level of employment would be accomplished by the number of jobs growing by 3640 per year in the 1981 to 1991 period and by 2290 jobs per year in the 1991 to 2001 period. This is compared to an estimated growth of 11,300 jobs per year between 1971 and 1976 and 4,300 jobs per year between 1976 and 1981. This level of growth would result if federal government grew at the modest rate of 0.3% a year and most other sectors continued their recent trends.

TABLE 4.1

CHARACTERISTIC	PROJECTION ASSUMPTION YEAR 2001 LOW	HIGH	1981 SITUATION
POPULATION	623,000	723,000	546,849
EMPLOYMENT	353,000	443,000	293,700
RATIO OF POP/ JOBS	1.76	1.63	1.87
POPULATION GROWTH 1981-2001	0.65%/yr 3,808	1.40%/yr 8,807	
AVG ANNUAL GROWTH IN JOBS TOTAL 1981-2001 F.T.E*	2,970 2,820	7,470 6,780	4,260 (76-81) 2,810
ESTIMATED PARTICIPATION RATE (%)	70.0	73.0	65 to 70
% POP 15 yrs	16.2	17.2	20.3
" 15-24	11.8	12.2	9.8
" 25-64	58.3	58.3	61.0
" 65+	13.7	12.3	8.9

*F.T.E. is full-time equivalents (all full time plus half of part-time)

Source: Options of Future Growth in Ottawa-Carleton, Employment Projections Ottawa-Carleton 1981-2001.

In terms of real growth in the economy the low projection is similar to the experience of the period 1976 to 1981. Table 4.1 compares growth in "full-time equivalent jobs" and "total jobs". Total job growth in the period 1976-1981 was more rapid than this projection due to a significant increase in part-time employment. Part-time employment is held constant however for the projection period.

2. The High Projection

Approximately 443,000 jobs are required to achieve the higher population projection.

This level of employment would be accomplished by the number of jobs increasing by 7,590 per year in the 1981 to 1991 period and by 7,290 jobs per year in the 1991 to 2001 period. This is compared to an estimated increase of 11,300 jobs per year in the 1971 to 1976 period and 4,300 jobs per year in the 1976 to 1981 period. This level of employment could be achieved if the Federal government maintained an average rate of growth of 2.0 per cent per year and the rate of job creation in most other sectors was greater than recent trends due to higher levels of

population growth and the associated demands for population serving activities.

It can be observed from the summary table that the number of persons supported per job will decrease in the future:

a) due to increased participation rates combined with;

b) an increased proportion of the population over 15 years of age (labour force age);

c) due to the maintance of a constant proportion of the population with more than one job.

Both projections assume a constant 17 per cent of the labour force works part-time. However, between 1976 and 1981, part-time employment increased from 13% to 17% of all jobs representing 68% of the total increase in employment. This proportion may continue to increase thereby producing higher participation rates and a lower number of persons supported per job.

The range of population and employment identified in this section will form the basis for reviewing and testing future options for the geographic distribution of the anticipated increases in population and employment within the Ottawa-Carleton Region.

5.0 options for employment and population distribution in ottawa-carleton 1991 and 2001

5.0 OPTIONS FOR EMPLOYMENT AND POPULATION DISTRIBUTION IN OTTAWA-CARLETON 1991 AND 2001

A. Introduction

The following options for employment and population distributions have been identified for testing purposes. They do not represent all the possible combinations that could occur but include most representative cases. Testing will include running the TRANS model to forecast overall transportation demands and may include other analyses of such matters as potential energy consumption, the costs of providing and potential benefits of locations of development and how well each alternative fulfills the goals of the official plan.

The TRANS model cannot be used to test various alternative rural growth options due to the size and number of traffic zones and the low order of magnitude of growth associated with the rural growth options.

The implications of various rural growth options will be determined as part of the overall review and evaluation of urban structure and rural settlement patterns.

Though the population and employment growth identified in this report to the turn of the century is significant, the long-term effects (post year 2001) associated with larger and possibly different development concepts will be addressed during the course of the Official Plan review.

The performance of these alternative concepts will be evaluated on the basis of the progression toward or retrogression away from the objectives currently in the Official Plan. The evaluation will be based both on quantitative system performance measures and on judgemental appraisals of performance.

It is emphasized that there is not a clear relationship between the distribution of jobs and the distribution of people. For example, the large concentration of employment in the central area is not associated with a large concentration of people. There will always be a certain amount of employment required to meet the service and retail requirement of a neighbourhood and these levels will vary in some relationship with population. However, the remaining portion of employment is distributed as a function of a variety of factors: total regional demand for that land use, availability of land, disposition of competing sites etc. As a result, two urban communities of a similar size will not necessarily have a similar employment base.

B. Options to be Tested

1. Regional Projection

The options are divided into two groups. Those prefixed with an 'H' represent a high overall regional projection signifying rapid growth in employment and the associated population levels. Those prefixed with an 'L' represent the low end of the range of likely options.

The high projection represents 723,000 people and 443,000 jobs in the Region in 2001. This means that 76% of the population and 66% of the employment are already in place in 1981.

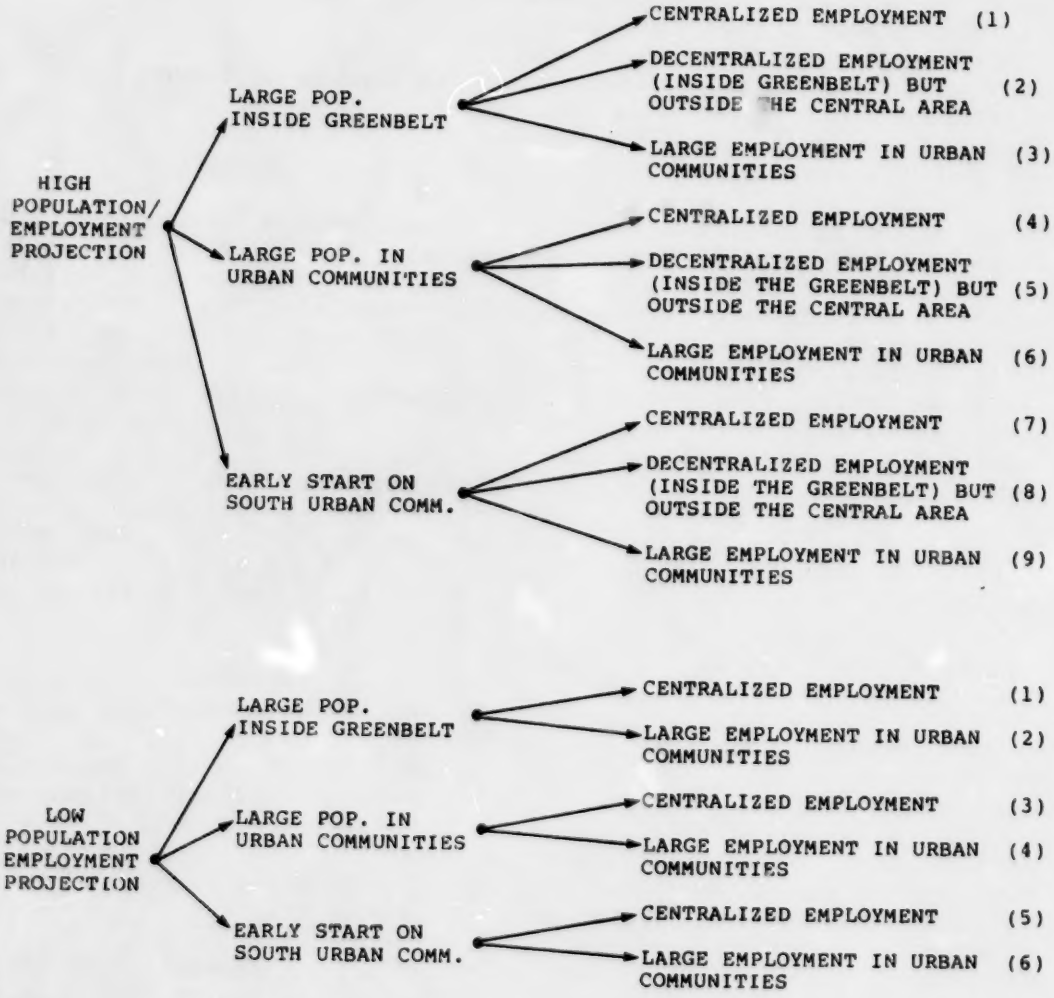
The low projection represents 623,000 people and 353,000 jobs at the turn of the century. This means that 88% of the population and 83% of the employment are already in place in 1981.

2. Distribution of Regional Projections

The tables in Appendix A identify a series of optional distributions

FIGURE 5.1

SUMMARY OF OPTIONS PREPARED


HIGH POPULATION/ EMPLOYMENT PROJECTION
LARGE POP. INSIDE GREENBELT
CENTRALIZED EMPLOYMENT (1)
DECENTRALIZED EMPLOYMENT (INSIDE GREENBELT) BUT OUTSIDE THE CENTRAL AREA (2)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (3)
LARGE POP. IN URBAN COMMUNITIES
CENTRALIZED EMPLOYMENT (4)
DECENTRALIZED EMPLOYMENT (INSIDE THE GREENBELT) BUT OUTSIDE THE CENTRAL AREA (5)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (6)
EARLY START ON SOUTH URBAN COMM.
CENTRALIZED EMPLOYMENT (7)
DECENTRALIZED EMPLOYMENT (INSIDE THE GREENBELT) BUT OUTSIDE THE CENTRAL AREA (8)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (9)
LOW POPULATION EMPLOYMENT PROJECTION
LARGE POP. INSIDE GREENBELT
CENTRALIZED EMPLOYMENT (1)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (2)
LARGE POP. IN URBAN COMMUNITIES
CENTRALIZED EMPLOYMENT (3)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (4)
EARLY START ON SOUTH URBAN COMM.
CENTRALIZED EMPLOYMENT (5)
LARGE EMPLOYMENT IN URBAN COMMUNITIES (6)

that have been developed for the high and low regional projections. They are intended to cover a broad spectrum of situations that could occur by the turn of the century.

a) How to read the options

The options are identified as H1 to H9 and L1 to L6. The prefix H and prefix L refer to the high regional projection and low regional projection respectively. Each option results from some combination of employment and population as outlined in the following figure (Figure 5.1).

Dealing with the high projection first, there are three typical population distributions that could occur: 1) a high population inside the greenbelt boundary (H1 to H3); 2) a high population in the East and West Urban Communities (H4 to H6); 3) an early South Urban Community (H7 to H9). In addition there are three typical employment distributions that could occur: 1) a large centralization of employment in the central area (H1, H4, H7); 2) a decentralization of central area employment (mainly) to other areas inside the greenbelt boundary (H2, H5, H8); 3) a high level of employment in the urban communities (H3, H6, H9). Therefore, H1 for example, is characterized by a high population inside the greenbelt boundary in combination with a centralized employment distribution.

Similarly, the low options are summarized as follows with respect to population: 1) a high population level inside the greenbelt boundaries (L1, L2); 2) a large population in the East and West Urban Communities (L3, L4); 3) an early start on the South Urban Community (L5, L6). The employment is only likely to achieve one of two distributions: 1) a centralized distribution (L1, L3, L5) or 2) a high level of employment in the urban communities (L2, L4, L6).

Clearly, some options resemble others with respect to the population distribution and are differentiated on the basis of employment, and vice-versa. Therefore, the options are dealt with in groups, on the basis that there are common elements.

b) Description of the Options for Employment and Population Distribution

(i) H1 to H3 (Figure 5.2)

In all three cases there is a high total population and employment projected and the following population distribution characteristics are common:

- The area inside the outer limits of the greenbelt will capture 27% of the population growth in the Region between 1981 and 2001. The average household size will decline from 2.7 to 2.5 persons per unit in the twenty year period. To achieve this level of population inside the greenbelt boundary, most of the vacant residential lands (both ground and non-ground oriented) are developed as currently designated. In addition there is substantial redevelopment to higher densities and infilling in older neighbourhoods.

- The East, West and South Urban Communities will capture 63% of the total population growth in the Region between 1981 and 2001:

  EUC 27%
  WUC 29%
  SUC 8%

  This means that the East and West Urban Communities will achieve approximately 70% of their total population capacity (assuming an ultimate population of between 75,000 to 100,000 people). It also means that the Barrhaven portion of the South Urban Community is developed to its current capacity.

In each case a different employment distribution is developed:

H1 - The population is characterized as above. A total of 24% of the employment is concentrated in the central area of the City of Ottawa (compared to 17% in 1981).

- total employment growth is high so that industrial areas flourish. The West Urban community maintains an advantage over the East Urban community in terms of industrial growth and the South Urban Community develops a successful industrial area. A large proportion of rural growth is also in industrial areas (eg. rural Gloucester). Industial areas represent 20% of total regional employed.

- the high rate of employment growth is largely a result of expansion in the federal government so that office demand is high. Most existing office locations expand and there is new office development along major arterials, a new federal government complex, district centre development and offices in the two Town Centres.

- there is expansion of existing institutions and a small hospital facility may develop in each of the East and West Urban Communities.

- Although this is termed a 'concentrated' option, there is still significant expansion

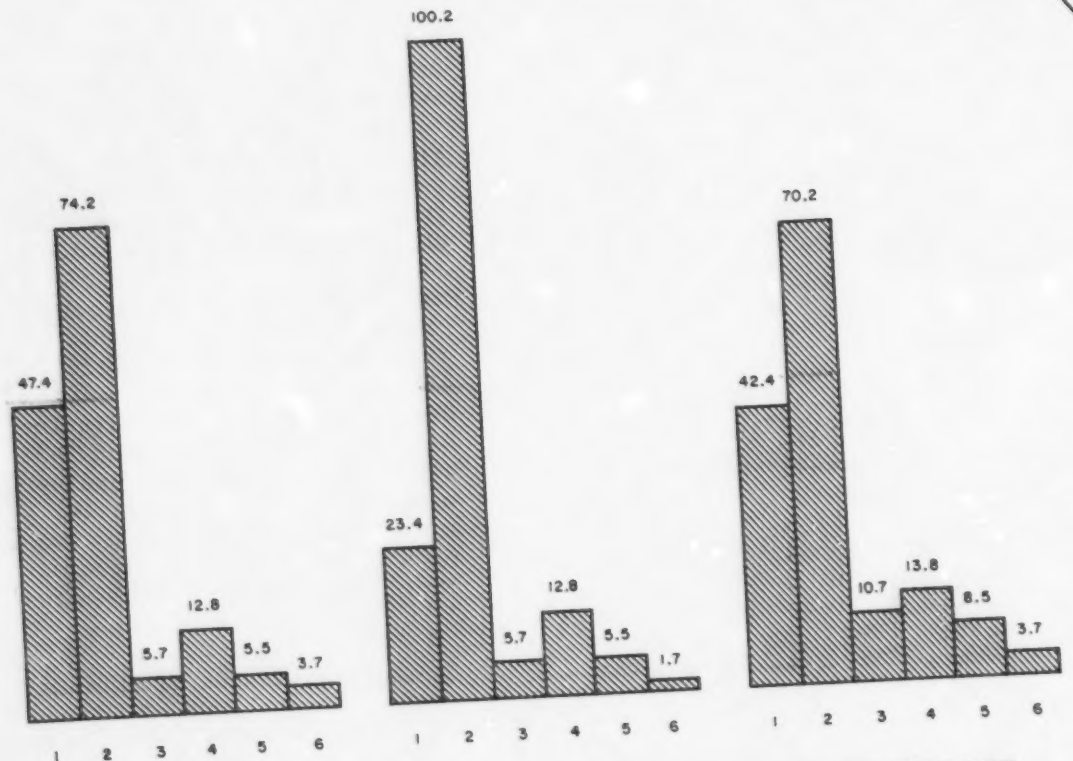
FIGURE 5.2

DISTRIBUTION OF POPULATION AND EMPLOYMENT IN THOUSANDS

HIGH POPULATION AND EMPLOYMENT

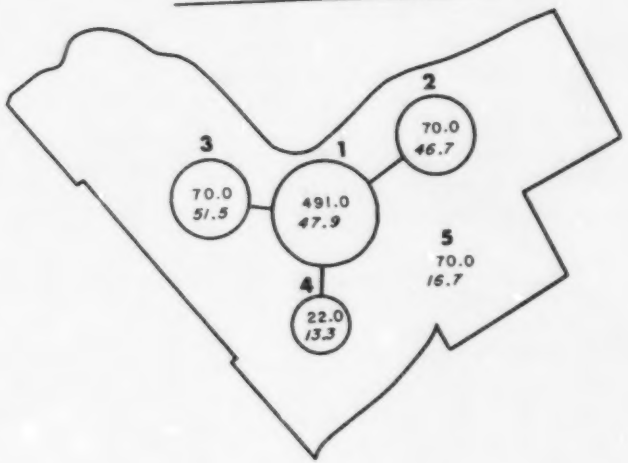
LARGE POPULATION INSIDE THE GREENBELT

1981 - 2001 EMPLOYMENT CHANGE



1 - GREATER CENTRAL AREA
2 - REST INSIDE GREENBELT
3 - EAST URBAN COMMUNITY
4 - WEST URBAN COMMUNITY
5 - SOUTH URBAN COMMUNITY
6 - RURAL

POPULATION DISTRIBUTION



491.0- YEAR 2001 POPULATION
47.9 - YEAR 1981-2001 POPULATION CHANGE

1 - INSIDE THE GREENBELT
2 - EAST URBAN COMMUNITY
3 - WEST URBAN COMMUNITY
4 - SOUTH URBAN COMMUNITY
5 - RURAL

in all other areas.

H2 - the population is characterized as above, however the employment varies from H2 as follows:

- a large proportion of new employment is decentralized from the central area to other areas inside the greenbelt boundary.
- the nature of this employment is such that there is significant office construction at district centres, along major arterials and expansion of existing office areas.
- basically this option varies from H1 in terms of capture of new office employment inside the greenbelt boundary and has little impact on industrial areas or on urban communities.

H3 - the population is characterized as above, however the employment varies from H1 and H2 as follows:

- very high employment levels achieved in the Urban Communities.
- a large portion of the growth is that which under previous options accrued to areas inside the greenbelt boundary but outside the central area. Therefore, there is a large impact on the industrial areas in the Urban Communities while industrial areas inside the greenbelt boundary capture less employment than in H1 or H2.
- in addition, there is some additional capture of office employment from the Central Area. However, there is a limit to how much office development is likely to locate in the Urban Communities, so that the overall impact on the central area is small.
- the service and retail component is also expanded to accommodate the growing population in the Urban Communities.

(ii) H4 to H6 (Figure 5.3)

In all three cases, a high level of population and employment is projected and the following population distribution characteristics are common.

- The East, West and South Urban Communities will capture 97% of the total population growth in the Region between 1981 and 2001:

  EUC 44%
  WUC 46%
  SUC 7%

  which is a much higher proportion of the projected increase than was expected for the previous options. In fact, the East and West urban Communities will be fully developed in these options by the turn of the century. The Barrhaven portion of the South Urban Communtity will be developed to its current capacity as is the case in the previous options.

- The area inside the outer limits of the greenbelt will actually experience a net decline in population over the 20 year period. This results from a continued decline in household size compiled with much less infilling and redevelopment than was associated with the previous options, H1 to H3. In addition, there will still exist some vacant residential parcels inside the greenbelt boundaries.

For the three options, H4 to H6, the same three employment distributions introduced earlier are applied again:

H4 - the population is as characterized as above. The employment is concentrated in the central area as was described in H1. The only reason that H1 is not identical to H4 with respect to employment is because that component of the employment base that is there to serve the resident population must vary with the size of resident population. So, for example, there are more retail facilities in Urban Communities in H4 than there are in H1.

H5 - the population is as described above. The employment is decentralized to areas inside the greenbelt boundary just as described in H2. Some adjustment have been made to the employment to take account of the difference in population in each area.

H6 - the population distribution is as described above but a high level of employment is achieved in the Urban Communities as described in H3. Again, adjustments have been made to the population serving employment.

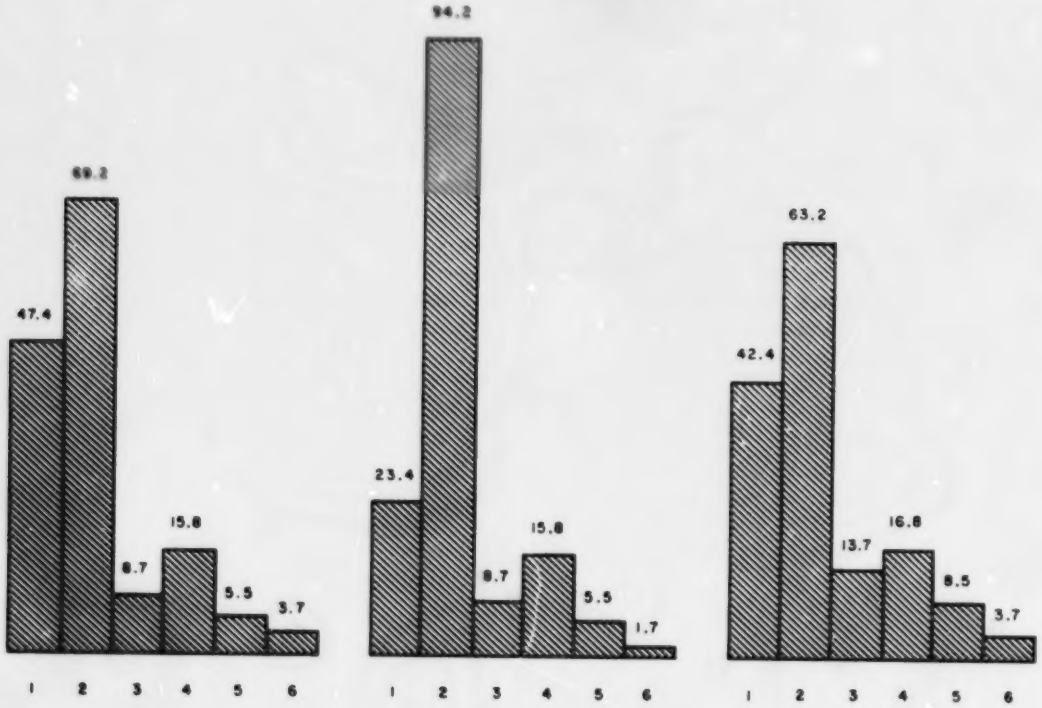
FIGURE 5.3

DISTRIBUTION OF POPULATION AND EMPLOYMENT IN THOUSANDS

HIGH POPULATION AND EMPLOYMENT

LARGE POPULATION IN THE URBAN COMMUNITIES

1981 - 2001 EMPLOYMENT CHANGE



CENTRALIZED EMPLOYMENT

H4

DECENTRALIZED EMPLOYMENT TO INSIDE THE GREENBELT

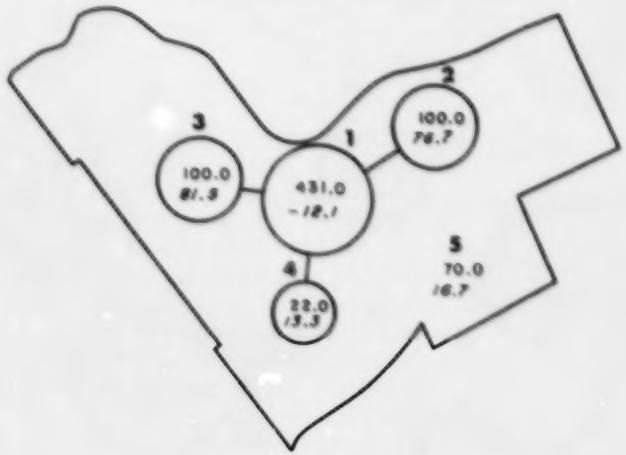
H5

LARGE EMPLOYMENT IN THE URBAN COMMUNITIES

H6

1 - GREATER CENTRAL AREA
2 - REST INSIDE GREENBELT
3 - EAST URBAN COMMUNITY
4 - WEST URBAN COMMUNITY
5 - SOUTH URBAN COMMUNITY
6 - RURAL

POPULATION DISTRIBUTION



431.0 - YEAR 2001 POPULATION
-12.1 - YEAR 1981-2001 POPULATION CHANGE

1 - INSIDE THE GREENBELT
2 - EAST URBAN COMMUNITY
3 - WEST URBAN COMMUNITY
4 - SOUTH URBAN COMMUNITY
5 - RURAL

(iii) H7 to H9 (Figure 5.4)

In all three cases, a high total employment and population is projected in the Region for 2001. The following population distribution characteristics area common:

- Development of the South Urban Community, beyond the current boundaries of Barrhaven, will begin early. This is contrasted to the previous options where the development was confined to Barrhaven. The location of this additional development could be: a) South of Barrhaven in the City of Nepean; b) part of the south-west portion of the City of Gloucester; or c) in both areas, as contemplated in the Regional Official Plan.

- The East, West and South Urban Communities would still capture 97% of the population increase between 1981 and 2001 in the Region but as follows:

  EUC 32%
  WUC 35%
  SUC 30%

- The population inside the greenbelt boundary is identical to the distribution described for H3 to H6.

For the three options, H7 to H9, the three employment options developed and described earlier, are applied.

H7 - the population is as characterized above. The employment is concentrated on the central area as described in H1. Adjustments are made for the higher population in the South Urban Community.

H8 - the population is as described above. The employment is decentralized to areas inside the greenbelt boundary as described for option H2.

H9 - the population is as described above. A high level of employment is achieved in the Urban Communities as described for option H3.

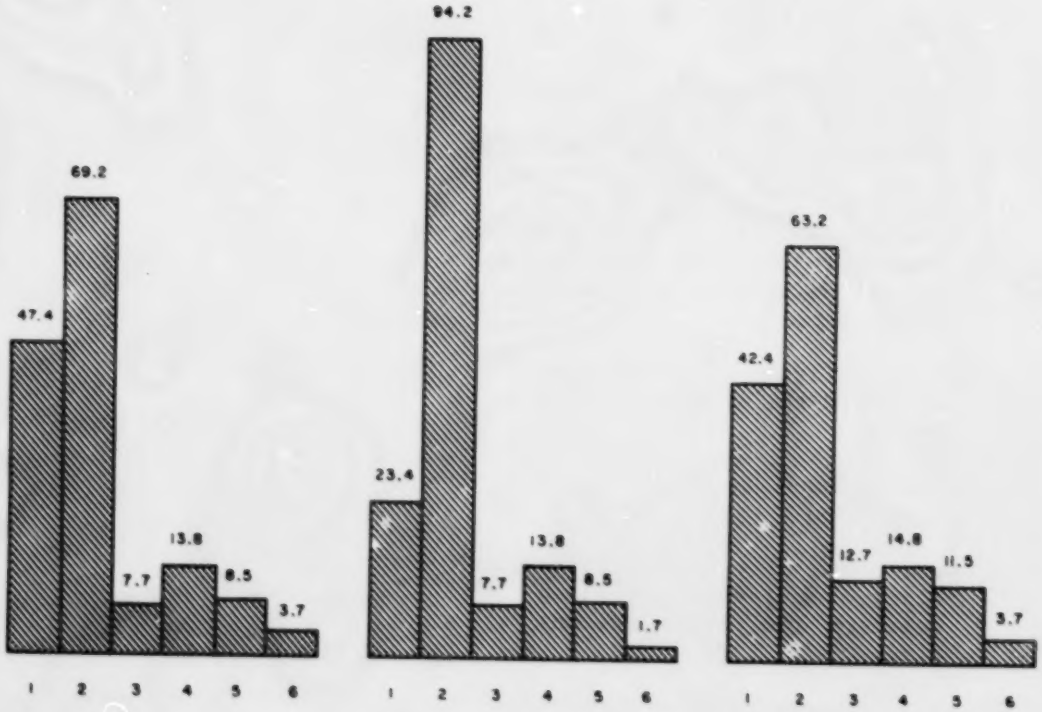
FIGURE 5.4

DISTRIBUTION OF POPULATION AND EMPLOYMENT IN THOUSANDS

HIGH POPULATION AND EMPLOYMENT

EARLY START ON THE SOUTH URBAN COMMUNITY

1981 – 2001 EMPLOYMENT CHANGE



CENTRALIZED EMPLOYMENT

H7

DECENTRALIZED EMPLOYMENT TO INSIDE THE GREENBELT

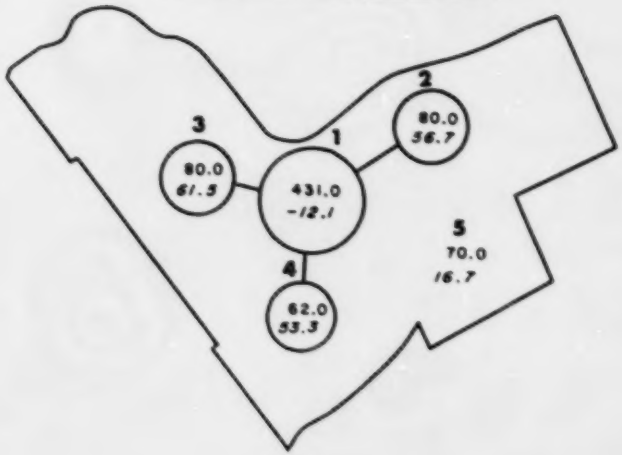
H8

LARGE EMPLOYMENT IN THE URBAN COMMUNITIES

H9

1 – GREATER CENTRAL AREA
2 – REST INSIDE GREENBELT
3 – EAST URBAN COMMUNITY
4 – WEST URBAN COMMUNITY
5 – SOUTH URBAN COMMUNITY
6 – RURAL

POPULATION DISTRIBUTION



80.0 – YEAR 2001 POPULATION
56.7 – YEAR 1981-2001 POPULATION CHANGE

1 – INSIDE THE GREENBELT
2 – EAST URBAN COMMUNITY
3 – WEST URBAN COMMUNITY
4 – SOUTH URBAN COMMUNITY
5 – RURAL

(iv) L1 and L2 (Figure 5.5)

In these two cases, a lower employment and population level are projected for the Region for the year 2001. The following population distribution characteristics are common:

- The area inside the outer limits of the greenbelt will capture about 12 per cent of the projected growth in the Region. This will result from relatively extensive development of major vacant residential parcels, combined with modest redevelopment and infilling. The average household size will decline from 2.7 persons in 1981 to approximately 2.4 persons in 2001. This household size is slightly lower than under the "high" population projections.

- The East, West and South Urban Communities will capture 80% of the projected increase in population, mainly in the E.U.C. and the W.U.C. Neither will achieve full development.

In each case a different employment distribution is developed:

L1 - the population distribution is as described above and the employment is as follows:

- low regional total employment projection.

- a total of 25% of regional employment concentrated in the central area of the City of Ottawa. Although this is termed a concentrated option, the central area is in fact not overly large since the total regional employment growth is significantly lower than in the previous options.

- there is less expansion of existing facilities than was described in H1, and no new federal government complex is contemplated.

L2 - The population is as described above and the employment is as follows:

- low regional total employment projection.

- the employment is decentralized from inside the greenbelt to the Urban Communities.

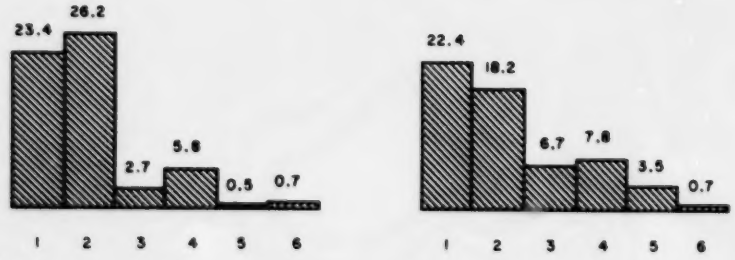
- this represents the case where all three Urban Communities attain relatively high employment levels. The West Urban Community still shows an advantage in industrial growth but the East and South Urban Communities are performing well.

FIGURE 5.5 DISTRIBUTION OF POPULATION AND EMPLOYMENT IN THOUSANDS

LOW POPULATION AND EMPLOYMENT

LARGE POPULATION INSIDE THE GREENBELT

1981 - 2001 EMPLOYMENT CHANGE



CENTRALIZED EMPLOYMENT

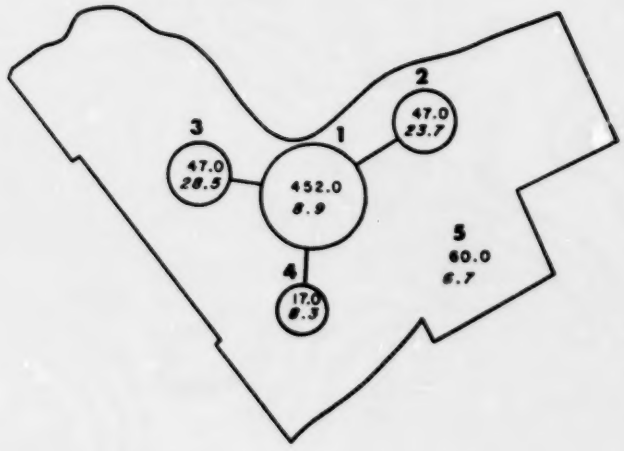
L1

LARGE EMPLOYMENT IN THE URBAN COMMUNITIES

L2

1 - GREATER CENTRAL AREA
2 - REST INSIDE GREENBELT
3 - EAST URBAN COMMUNITY
4 - WEST URBAN COMMUNITY
5 - SOUTH URBAN COMMUNITY
6 - RURAL

POPULATION DISTRIBUTION



452.0 - YEAR 2001 POPULATION
8.9 - YEAR 1981 - 2001 POPULATION CHANGE

1 - INSIDE THE GREENBELT
2 - EAST URBAN COMMUNITY
3 - WEST URBAN COMMUNITY
4 - SOUTH URBAN COMMUNITY
5 - RURAL

(v) L3 and L4 (Figure 5.6)

In these two cases, a low employment and population are projected for the Region in the year 2001. The following population distribution characteristics are common:

- The East, West and South Urban Communities capture more than 100% of the net growth, that is, they grow at the expense fo the area inside the greenbelt boundary. The East and West Urban Communities will not be fully developed under a low total regional projection.

- Inside the outer limits of the greenbelt a decline is experienced in population. This is because a declining household size will not be offset by development. In fact, many of the major vacant parcels will not be developed nor will extensive redevelopment or infilling activities occur.

For each case, the two employment distribution options introduced earlier, in L1 and L2, are applied.

L3 - the population is as described above and the population is concentrated in the central area as in L1.

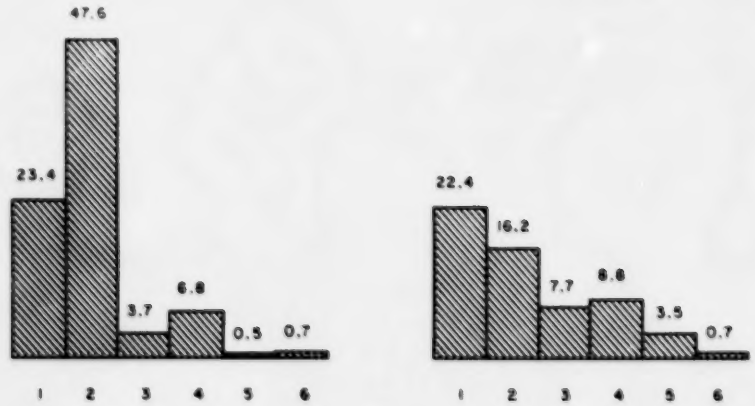
L4 - the population is as described above the population level in the Urban Communities is high as described in L2.

FIGURE 5.6 DISTRIBUTION OF POPULATION AND EMPLOYMENT IN THOUSANDS

LOW POPULATION AND EMPLOYMENT

LARGE POPULATION IN THE URBAN COMMUNITIES

1981 - 2001 EMPLOYMENT CHANGE



CENTRALIZED EMPLOYMENT

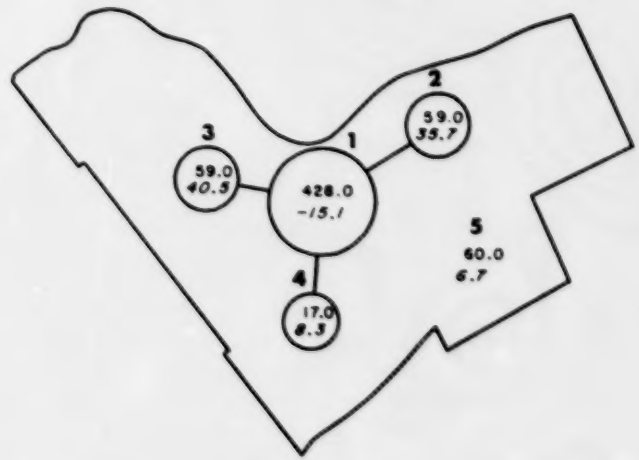
L 3

LARGE EMPLOYMENT IN THE URBAN COMMUNITIES

L 4

1 - GREATER CENTRAL AREA
2 - REST INSIDE GREENBELT
3 - EAST URBAN COMMUNITY
4 - WEST URBAN COMMUNITY
5 - SOUTH URBAN COMMUNITY
6 - RURAL

POPULATION DISTRIBUTION



59.0 - YEAR 2001 POPULATION
35.7 - YEAR 1981-2001 POPULATION CHANGE

1 - INSIDE THE GREENBELT
2 - EAST URBAN COMMUNITY
3 - WEST URBAN COMMUNITY
4 - SOUTH URBAN COMMUNITY
5 - RURAL

(vi) L5 and L6 (Figure 5.7)

These two cases are also characterized by a low total regional projecton of population and employment. The following population characteristics are common:

- there is an early start on the development of the South Urban Community beyond the existing Barrhaven boundaries. The development would begin in the early 1990's, located in those areas as outlined in options H7 to H9.

- the area inside the outer limits of the greenbelt would perform as described in L3 and L4, that is, the population would decline.

To each of these applied the two employment distributions so that L7 refers to the concentrated option discussed in L1 and L8 refers to a high level of employment achieved in the urban Communities as described in L2.

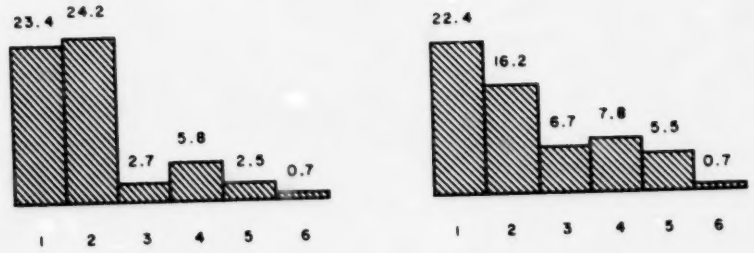
FIGURE 5.7

DISTRIBUTION OF POPULATION AND EMPLOYMENT IN THOUSANDS

LOW POPULATION AND EMPLOYMENT

EARLY START ON THE SOUTH URBAN COMMUNITY

1981 - 2001 EMPLOYMENT CHANGE



CENTRALIZED EMPLOYMENT

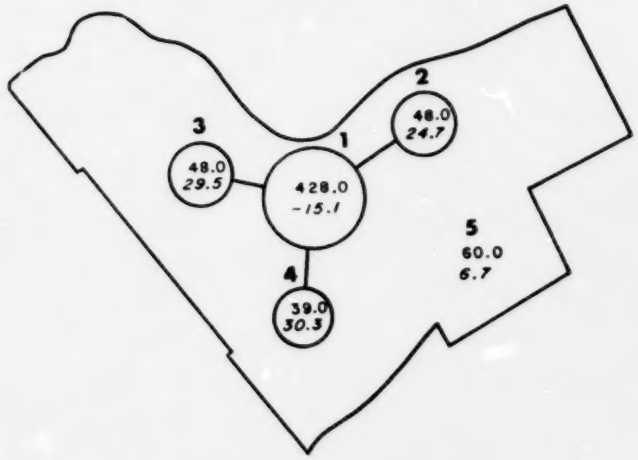
L5

LARGE EMPLOYMENT IN THE URBAN COMMUNITIES

L6

1 - GREATER CENTRAL AREA
2 - REST INSIDE GREENBELT
3 - EAST URBAN COMMUNITY
4 - WEST URBAN COMMUNITY
5 - SOUTH URBAN COMMUNITY
6 - RURAL

POPULATION DISTRIBUTION



48.0 - YEAR 2001 POPULATION
24.7 - YEAR 1981 - 2001 POPULATION CHANGE

1 - INSIDE THE GREENBELT
2 - EAST URBAN COMMUNITY
3 - WEST URBAN COMMUNITY
4 - SOUTH URBAN COMMUNITY
5 - RURAL

6.0 conclusion

6.0 CONCLUSION

This evaluation of the various factors influencing growth in population and employment has been undertaken as part of a review of socio-economic and demographic changes on the policies of the Official Plan.

The population and employment distributions establish a range of possible and achievable population and employment levels by the turn of the century. These options are realistic alternatives which may be achievable if policies are created to support them. However as a result of analysis and evaluation the recommended option may well be one which combines attributes from many.

It is intended that detailed analyses will be carried out on each of the options. The Planning department in co-operation with other regional departments and the ACPAT Sub-committee dealing with land-use and transportation will be examining the advantages and disadvantages of each of these options in 1983.

In addition, the long-term (post 2001) downstream implications of substantially larger urban communities in the East and West and on alternative urban community locations in the south will be investigated as part of the Official Plan review.

Footnotes

[1]For details refer to: Mobility in Ottawa-Carleton, Aug. 1980. Population Forecasts Ottawa-Carleton, 1976-2001, Oct., 1980; Households in Ottawa-Carleton, Trends and Forecasts, Dec., 1981; Employment in Ottawa-Carleton, 1976-1981, Feb., 1982; Population Trends in Ottawa-Carleton, 1976-1981, Apr., 1982. Population Projections, Ottawa-Carleton, 1981-2001, Nov., 1982; Employment Projections, Ottawa-Carleton, 1981-2001, Nov., 1982.

[2]ACPAT - Administrative Committee on Planning and Transportation. The land-use and transportation sub-committee was formed by ACPAT on 1 Dec. 1981. The sub-committee is comprised of staff from the: Ontario Ministry of, Municipal Affairs and Housing, and Ministry of Transportation and Communications, National Capital Commission, Comunaute Régionale de l'Ouatouis, and Ottawa-Carleton Planning and Transportation Departments. The mandate of the Committee is to review data and information on land-use and transportation matters relating to the review of parts 2 and 3 of the Official Plan. To make suggestions to the Ottawa-Carleton Planning and Transportation Departments on the methodology, analysis and resultant conclusions to be drawn from the land use - transportation testing. To review and comment on the policy recommendations flowing from the land use and transportation testing.

[3]Official Plan, Ottawa-Carleton Planning Area, Section 2.1.1 page 2-3 point (1). A table (Table 2.1) for reference purposes is also presented in the Official Plan. It does not reflect any objective of the plan. This table illustrates the effect various alternative rates of population growth experienced in the period 1961-1971 have on the year at which a population threshold of one million persons could be reached. The range extended from the year 1998 to the year 2015.

[4]Population Forecasts Ottawa-Carleton, 1976-2001, Oct., 1980, P.2.

[5]Population Forecasts, Ottawa-Carleton, 1976-2001 and Population Projections, 1981-2001.

[6]Ottawa, Vanier, Rockcliffe, parts of Nepean and Gloucester.

[7]Households in Ottawa-Carleton Trends and Forecast, Dec., 1981.

[8]Land Use in Ottawa-Carleton, Regional Municipality of Ottawa-Carleton, Planning Department, Aug. 1982.

[9]Land Use in Ottawa-Carleton, P.5.

[10]Gross urban density includes all developed lands including roads inside the outer limit of the greenbelt, west urban community, East Urban Community and Barrhaven. The density is expressed in persons (urban) per developed hectare.

[11]Similar to footnote 3 except areas of roads are excluded in net residential density calculations.

[12]Land Use in Ottawa-Carleton, P.7.

[13]Employment in Ottawa-Carleton 1976-1981; Employment projections Ottawa-Carleton 1981-2001; 1971 census of Canada. The total number of jobs includes full time and part time employment.

[14]Regional Official Plan, Table 2-7 census modified 1971 employment data.

[15]Land Use in Ottawa-Carleton, Aug 82.

[16]Employment in Ottawa-Carleton 1976-1981, Feb. 1982.

[17]Employment projections, Ottawa-Carleton 1981-2001.

[18]Labour force population simply refers to that portion of the population that is 15 years of age or over.

Labour force refers to that portion of the labour force population that is "participating" in the labour force by either working or looking for work. The participation rate is defined as the proportion of any given group that is in the labour force, either working or looking for work. For instance, the average participation rate in the Region in 1976 was estimated to be 65% however participation rates vary by age and sex.

[19]Population Projections 1981-2001

[20]Population Forecasts, Ottawa-Carleton, 1976-2001, Population Projections, Ottawa-Carleton, 1981-2001.

[21]A detailed discussion of the various assumptions and methodology used in projecting employment to the year 2001 is contained in the report on employment projections 1981-2001.

Appendix A

alternative options for
the geographic distribution
population and employment, 1981-2001

OPTION H1 - HIGH POPULATION AND EMPLOYMENT PROJECTION,
LARGE POPULATION INSIDE THE GREENBELT
CONCENTRATED EMPLOYMENT OPTION
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	128,000	46,000	150,000
(Central Area)	(4,100)	(67,300)	(6,000)	(90,000)	(6,000)	(110,000)
Rest Inside Greenbelt	399,100	169,800	433,000	207,000	445,000	244,000
TOTAL INSIDE GREENBELT	443,100	272,400	479,000	335,000	491,000	394,000
East Urban Community	23,300	2,300	48,000	5,000	70,000	8,000
West Urban Community	18,500	7,200	37,000	15,000	70,000	20,000
South Urban Community	8,700	500	19,000	2,000	22,000	6,000
TOTAL URBAN COMMUNITIES	50,500	10,000	104,000	22,000	162,000	34,000
TOTAL RURAL	53,300	11,300	60,000	13,000	70,000	15,000
TOTAL REGION	546,900	293,700	643,000	370,000	723,000	443,000

OPTION H2 - HIGH POPULATION AND EMPLOYMENT PROJECTION
LARGE POPULATION INSIDE THE GREENBLET,
DECENTRALIZED EMPLOYMENT TO INSIDE THE GREENBELT
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	108,000	46,000	126,000
(Central Area)	(4,100)	(67,300)	(6,000)	(76,000)	(6,000)	(88,000)
Rest Inside Greenbelt	399,100	169,800	433,000	228,000	445,000	270,000
TOTAL INSIDE GREENBELT	443,100	272,400	479,000	336,000	491,000	396,000
East Urban Community	23,300	2,300	48,000	5,000	70,000	8,000
West Urban Community	18,500	7,200	37,000	15,000	70,000	20,000
South Urban Community	8,700	500	19,000	2,000	22,000	6,000
TOTAL URBAN COMMUNITIES	50,500	10,000	104,000	22,000	162,000	34,000
TOTAL RURAL	53,300	11,300	60,000	12,000	70,000	13,000
TOTAL REGION	546,900	293,700	643,000	370,000	723,000	443,000

DISTRIBUTION ASSUMPTIONS:

Population - Big East & West

Employment - Concentrated in Central Area but increase in non-industrial employment in East & West Commensurate with pop. increase.

OPTION H3 - HIGH POPULATION AND EMPLOYMENT PROJECTION,
LARGE POPULATION INSIDE THE GREENBELT,
LARGE EMPLOYMENT IN THE URBAN COMMUNITIES
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	124,000	46,000	145,000
(Central Area)	(4,100)	(67,300)	(6,000)	(87,000)	(6,000)	(105,000)
Rest Inside Greenbelt	399,100	169,800	433,000	204,000	445,000	240,000
TOTAL INSIDE GREENBELT	443,100	272,400	479,000	328,000	491,000	385,000
East Urban Community	23,300	2,300	48,000	10,000	70,000	13,000
West Urban Community	18,500	7,200	37,000	15,000	70,000	21,000
South Urban Community	8,700	500	19,000	4,000	22,000	9,000
TOTAL URBAN COMMUNITIES	50,500	10,000	104,000	29,000	162,000	43,000
TOTAL RURAL	53,300	11,300	60,000	13,000	70,000	15,000
TOTAL REGION	546,900	293,700	643,000	370,000	723,000	443,000

OPTION H4 - HIGH POPULATION AND EMPLOYMENT PROJECTION,
LARGE POPULATION IN THE URBAN COMMUNITIES,
CENTRALIZED EMPLOYMENT OPTION
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	128,000	46,000	150,000
(Central Area)	(4,100)	(67,300)	(6,000)	(90,000)	(6,000)	(110,000)
Rest Inside Greenbelt	399,100	169,800	388,000	204,000	385,000	239,000
TOTAL INSIDE GREENBELT	443,100	272,400	434,000	332,000	431,000	389,000
East Urban Community	23,300	2,300	65,000	7,000	100,000	11,000
West Urban Community	18,500	7,200	65,000	17,000	100,000	23,000
South Urban Community	8,700	500	19,000	2,000	22,000	6,000
TOTAL URBAN COMMUNITIES	50,500	10,000	149,000	26,000	222,000	40,000
TOTAL RURAL	53,300	11,300	60,000	13,000	70,000	15,000
TOTAL REGION	546,900	293,700	643,000	370,000	723,000	443,000

OPTION H5 - HIGH POPULATION AND EMPLOYMENT PROJECTION,
LARGE POPULATION IN THE URBAN COMMUNITIES,
DECENTRALIZED EMPLOYMENT TO INSIDE THE GREENBELT
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	108,000	46,000	126,000
(Central Area)	(4,100)	(67,300)	(6,000)	(76,000)	(6,000)	(88,000)
Rest Inside Greenbelt	399,100	169,800	388,000	225,000	385,000	264,000
TOTAL INSIDE GREENBELT	443,100	272,400	434,000	333,000	431,000	390,000
East Urban Community	23,300	2,300	65,000	7,000	100,000	11,000
West Urban Community	18,500	7,200	65,000	17,000	100,000	23,000
South Urban Community	8,700	500	19,000	2,000	22,000	6,000
TOTAL URBAN COMMUNITIES	50,500	10,000	149,000	26,000	222,000	40,000
TOTAL RURAL	53,300	11,300	60,000	12,000	70,000	13,000
TOTAL REGION	546,900	293,700	643,000	370,000	723,000	443,000

OPTION H6 - HIGH POPULATION AND EMPLOYMENT PROJECTION,
LARGE POPULATION IN THE URBAN COMMUNITIES,
LARGE EMPLOYMENT IN THE URBAN COMMUNITIES
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	124,000	46,000	145,000
(Central Area)	(4,100)	(67,300)	(6,000)	(87,000)	(6,000)	(105,000)
Rest Inside Greenbelt	399,100	169,800	388,000	203,000	385,000	233,000
TOTAL INSIDE GREENBELT	443,100	272,400	434,000	327,000	431,000	379,000
East Urban Community	23,300	2,300	65,000	10,000	100,000	16,000
West Urban Community	18,500	7,200	65,000	17,000	100,000	24,000
South Urban Community	8,700	500	19,000	3,000	22,000	9,000
TOTAL URBAN COMMUNITIES	50,500	10,000	149,000	30,000	222,000	49,000
TOTAL RURAL	53,300	11,300	60,000	13,000	70,000	15,000
TOTAL REGION	546,900	293,700	643,000	370,000	723,000	443,000

OPTION H7 - HIGH POPULATION AND EMPLOYMENT PROJECTION,
EARLY START ON THE SOUTH URBAN COMMUNITY,
CENTRALIZED EMPLOYMENT OPTION
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	128,000	46,000	150,000
(Central Area)	(4,100)	(67,300)	(6,000)	(90,000)	(6,000)	(110,000)
Rest Inside Greenbelt	399,100	169,800	388,000	204,000	385,000	239,000
TOTAL INSIDE GREENBELT	443,100	272,400	434,000	332,000	431,000	389,000
East Urban Community	23,300	2,300	60,000	6,000	80,000	10,000
West Urban Community	18,500	7,200	60,000	16,000	80,000	21,000
South Urban Community	8,700	500	29,000	3,000	62,000	9,000
TOTAL URBAN COMMUNITIES	50,500	10,000	149,000	25,000	222,000	40,000
TOTAL RURAL	53,300	11,300	60,000	13,000	70,000	15,000
TOTAL REGION	546,900	293,700	643,000	370,000	723,000	443,000

OPTION H8 - HIGH POPULATION AND EMPLOYMENT PROJECTION,
EARLY START ON THE SOUTH URBAN COMMUNITY,
DECENTRALIZED EMPLOYMENT TO INSIDE THE GREENBELT
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	108,000	46,000	126,000
(Central Area)	(4,100)	(67,300)	(6,000)	(76,000)	(6,000)	(88,000)
Rest Inside Greenbelt	399,100	169,800	388,000	225,000	385,000	264,000
TOTAL INSIDE GREENBELT	443,100	272,400	434,000	333,000	431,000	390,000
East Urban Community	23,300	2,300	60,000	6,000	80,000	10,000
West Urban Community	18,500	7,200	60,000	16,000	80,000	21,000
South Urban Community	8,700	500	29,000	3,000	62,000	9,000
TOTAL URBAN COMMUNITIES	50,500	10,000	149,000	25,000	222,000	40,000
TOTAL PURAL	53,300	11,300	60,000	12,000	70,000	13,000
TOTAL REGION	546,900	293,700	643,o00	370,000	723,000	443,000

OPTION H9 - HIGH POPULATION AND EMPLOYMENT PROJECTION,
EARLY START ON THE SOUTH URBAN COMMUNITY,
LARGE EMPLOYMENT IN THE URBAN COMMUNITIES
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	46,000	124,000	46,000	145,000
(Central Area)	(4,100)	(67,300)	(6,000)	(87,000)	(6,000)	(105,000)
Rest Inside Greenbelt	399,100	169,800	388,000	204,000	385,000	233,000
TOTAL INSIDE GREENBELT	443,100	272,400	434,000	328,000	431,000	379,000
East Urban Community	23,300	2,300	60,000	9,000	80,000	15,000
West Urban Community	18,500	7,200	60,000	15,000	80,000	22,000
South Urban Community	8,700	500	29,000	5,000	62,000	12,000
TOTAL URBAN COMMUNITIES	50,500	10,000	149,000	29,000	222,000	49,000
TOTAL RURAL	53,300	11,300	60,000	13,000	70,000	15,000
TOTAL REGION	546,900	293,700	643,000	370,000	723,000	443,000

OPTION L1 - LOW POPULATION AND EMPLOYMENT PROJECTION
LARGE POPULATION INSIDE THE GREENBELT,
CENTRALIZED EMPLOYMENT OPTION
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	45,000	117,000	45,000	126,000
(Central Area)	(4,100)	(67,300)	(6,000)	(80,000)	(6,000)	(88,000)
Rent Inside Greenbelt	399,100	169,800	412,000	185,000	407,000	196,000
TOTAL INSIDE GREENBELT	443,100	272,400	457,000	302,000	452,000	322,000
East Urban Community	23,300	2,300	38,000	4,000	47,000	5,000
West Urban Community	18,500	7,200	30,000	11,000	47,000	13,000
South Urban Community	8,700	500	14,000	1,000	17,000	1,000
TOTAL URBAN COMMUNITIES	50,500	10,000	82,000	16,000	111,000	19,000
TOTAL RURAL	53,300	11,300	57,000	12,000	60,000	12,000
TOTAL REGION	546,900	293,700	596,000	330,000	623,000	353,000

OPTION L2 - LOW POPULATION AND EMPLOYMENT PROJECTION,
LARGE POPULATION INSIDE THE GREENBELT,
LARGE EMPLOYMENT IN THE URBAN COMMUNITIES
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	45,000	116,000	45,000	125,000
(Central Area)	(4,100)	(67,300)	(6,000)	(79,000)	(6,000)	(87,000)
Rest Inside Greenbelt	399,100	169,800	412,000	181,000	407,000	188,000
TOTAL INSIDE GREENBELT	443,100	272,400	457,000	297,000	452,000	313,000
East Urban Community	23,300	2,300	38,000	6,000	47,000	9,000
West Urban Community	18,500	7,200	30,000	13,000	47,000	15,000
South Urban Community	8,700	500	14,000	2,000	17,000	4,000
TOTAL URBAN COMMUNITIES	50,500	10,000	82,000	21,000	111,000	28,000
TOTAL RURAL	53,300	11,300	57,000	12,000	60,000	12,000
TOTAL REGION	546,900	293,700	596,000	330,000	623,000	353,000

OPTION L3 - LOW POPULATION AND EMPLOYMENT PROJECTION,
LARGE POPULATION IN THE URBAN COMMUNITIES,
CENTRALIZED EMPLOYMENT OPTION
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	45,000	117,000	45,000	126,000
(Central Area)	(4,100)	(67,300)	(6,000)	(80,000)	(6,000)	(88,000)
Rest Inside Greenbelt	399,100	169,800	385,000	184,000	383,000	194,000
TOTAL INSIDE GREENBELT	443,100	272,400	430,000	301,000	428,000	320,000
East Urban Community	23,300	2,300	48,000	4,000	59,000	6,000
West Urban Community	18,500	7,200	47,000	12,000	59,000	14,000
South Urban Community	8,700	500	14,000	1,000	17,000	1,000
TOTAL URBAN COMMUNITIES	50,500	10,000	109,000	17,000	135,000	21,000
TOTAL RURAL	53,300	11,300	57,000	12,000	60,000	12,000
TOTAL REGION	546,900	293,700	596,000	330,000	623,000	353,000

OPTION L4 - LOW POPULATION AND EMPLOYMENT PROJECTION,
LARGE POPULATION IN THE URBAN COMMUNITIES
LARGE EMPLOYMENT IN THE URBAN COMMUNITIES
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	45,000	116,000	45,000	125,000
(Central Area)	(4,100)	(67,300)	(6,000)	(79,000)	(6,000)	(87,000)
Rest Inside Greenbelt	399,100	169,800	385,000	179,000	383,000	186,000
TOTAL INSIDE GREENBELT	443,100	272,400	430,000	295,000	428,000	311,000
East Urban Community	23,300	2,300	48,000	7,000	59,000	10,000
West Urban Community	18,500	7,200	47,000	14,000	54,000	16,000
South Urban Community	8,700	500	14,000	2,000	17,000	4,000
TOTAL URBAN COMMUNITIES	50,500	10,000	109,000	23,080	135,000	30,000
TOTAL RURAL	53,300	11,300	57,000	12,000	60,000	12,000
TOTAL REGION	546,900	293,700	596,000	330,000	623,000	353,000

OPTION L5 - LOW POPULATION AND EMPLOYMENT PROJECTION,
EARLY START ON THE SOUTH URBAN COMMUNITY,
CENTRALIZED EMPLOYMENT OPTION
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	45,000	117,000	45,000	126,000
(Central Area)	(4,100)	(67,300)	(6,000)	(80,000)	(6,000)	(88,000)
Rest Inside Greenbelt	399,100	169,800	385,000	184,000	383,000	194,000
TOTAL INSIDE GREENBELT	443,100	272,400	430,000	301,000	428,000	320,000
East Urban Community	23,300	2,300	43,000	4,000	48,000	5,000
West Urban Community	18,500	7,200	43,000	11,000	48,000	13,000
South Urban Community	8,700	500	23,000	2,000	39,000	3,000
TOTAL URBAN COMMUNITIES	50,500	10,000	109,000	17,000	135,000	21,000
TOTAL RURAL	53,300	11,300	57,000	12,000	60,000	12,000
TOTAL REGION	546,900	293,700	596,000	330,000	623,000	353,000

OPTION L6 - LOW POPULATION AND EMPLOYMENT PROJECTION,
EARLY START ON THE SOUTH URBAN COMMUNITY
LARGE EMPLOYMENT IN THE URBAN COMMUNITIES
DISTRIBUTION OF POPULATION AND JOBS

	1981		1991		2001	
	Population	Jobs	Population	Jobs	Population	Jobs
Greater Central Area	44,000	102,600	45,000	116,000	45,000	125,000
(Central Area)	(4,100)	(67,300)	(6,000)	(79,000)	(6,000)	(87,000)
Rest Inside Greenbelt	399,100	169,800	385,000	129,000	383,000	186,000
TOTAL INSIDE GREENBELT	443,100	272,400	430,000	295,000	428,000	311,000
East Urban Community	23,300	2,300	43,000	6,000	48,000	9,000
West Urban Community	18,500	7,200	43,000	13,000	48,000	15,000
South Urban Community	8,700	500	23,000	4,000	39,000	6,000
TOTAL URBAN COMMUNITIES	50,500	10,000	109,000	23,000	135,000	30,000
TOTAL RURAL	53,300	11,300	57,000	12,000	60,000	12,000
TOTAL REGION	546,900	293,700	596,000	330,000	623,000	353,000

POOR

QUALITY

ORIGINAL